

WE CLAIM:

1. In a spreadsheet application system, an improved function set for formulaically bounding data in a spreadsheet application cell, comprising:
  - a spreadsheet cell operative to receive data; and
  - a spreadsheet function operative to restrict data entered into the spreadsheet cell to a prescribed data range.
2. The system of Claim 1, whereby the spreadsheet application system is operative in response to the spreadsheet function to restrict data entered into the spreadsheet cell to within a prescribed inclusive bound range.
3. The system of Claim 2, whereby the inclusive bound range includes a bound minimum value and a bound maximum value.
4. The system of Claim 3, whereby the spreadsheet application is further operative in response to the spreadsheet function to select one of the bound minimum value or the bound maximum value for entry into the spreadsheet cell if the data entered into the spreadsheet cell is outside the inclusive bound range.
5. The system of Claim 4, whereby the spreadsheet application is further operative in response to the spreadsheet function to select the one of the bound minimum value or the bound maximum value that has the closest absolute value distance from the data entered into the spreadsheet cell.
6. The system of Claim 1, whereby the spreadsheet application is operative in response to the spreadsheet function to restrict data entered into the spreadsheet cell to outside a prescribed exclusive bound range.

7. The system of Claim 6, whereby the exclusive bound range includes a bound minimum value and a bound maximum value.

8. The system of Claim 7, whereby the spreadsheet application is further operative in response to the spreadsheet function to select one of the bound minimum value or the bound maximum value for entry into the spreadsheet cell if the data entered into the spreadsheet cell is inside the exclusive bound range.

9. The method of Claim 8, whereby the spreadsheet application is further operative in response to the spreadsheet function to select the one of the bound minimum value or the bound maximum value that has a closest absolute value distance from the data entered into the spreadsheet cell.

10. The system of Claim 9, whereby the spreadsheet application is further operative in response to the spreadsheet function to create an overlapping exclusive bound range from two or more exclusive bound ranges, whereby the lowest bound minimum value of the overlapping bound ranges is selected as an overlapping exclusive bound range minimum value, and whereby a highest bound maximum value from the overlapping bound ranges is selected as an overlapping exclusive bound range maximum value.

11. The system of Claim 1, whereby the spreadsheet function is a BOUND function of the form `Bound(value, type, disabled, boundMin, boundMax, [disabled, boundMin, boundMax])`.

12. The system of Claim 11, whereby the *value* argument identifies the data entered into the spreadsheet cell.

13. The system of Claim 12, whereby the *type* argument identifies the type of the BOUND function, whereby the type of the BOUND function may be identified as an inclusive BOUND function, an exclusive BOUND function, or a disabled BOUND function.

14. The system of Claim 13, whereby the *disabled* argument identifies a BOUND function that is disabled from operation with respect to the spreadsheet cell.

15. The system of Claim 14, whereby the *boundMin* argument identifies a lower bound value of the prescribed data range.

16. The system of Claim 15, whereby the *boundMax* argument identifies an upper bound value of the prescribed data range.

17. A method of formulaically bounding data in a spreadsheet application cell, comprising:

- entering data into a spreadsheet application cell;
- applying a data bounding function to the spreadsheet application cell for prescribing valid data that may be entered into the spreadsheet application cell; and
- if the data entered into the spreadsheet application cell is not valid data prescribed by the data bounding function, preventing the data from entry into the spreadsheet application cell.

18. The method of Claim 17, further comprising determining whether the data bounding function is disabled from operation with respect to the spreadsheet application cell.

19. The method of Claim 18, whereby if the data bounding function is not disabled from operation with respect to the spreadsheet application cell, parsing the data bounding function to obtain any data bounding pairs, whereby said data bounding pairs represent a prescribed data bound range.

20. The method of Claim 19, further comprising determining whether the data bounding pairs represent an inclusive bound range into which valid data entered into the spreadsheet application cell must fall.

21. The method of Claim 20, further comprising:

- determining whether the data entered into the spreadsheet application cell falls within the inclusive bound range;
- if the data entered into the spreadsheet application cell falls within the inclusive bound range, entering the data into the spreadsheet application cell; and
- if the data entered into the spreadsheet application cell falls outside the inclusive bound range, preventing entry of the data into the spreadsheet application cell.

22. The method of Claim 21, further comprising:  
if the data entered into the spreadsheet application cell falls outside the inclusive bound range, entering into the spreadsheet application cell one of a lower endpoint of the inclusive bound range or an upper endpoint of the inclusive bound range that has the shortest absolute value distance from the data entered into the spreadsheet.

23. The method of Claim 19, further comprising:  
determining whether the data bounding pairs represent an exclusive bound range outside of which valid data entering into the spreadsheet cell must fall.

24. The method of Claim 23, further comprising:  
determining whether the data entered into the spreadsheet application cell falls outside the exclusive bound range;  
if the data entered into the spreadsheet application cell falls outside the exclusive bound range, entering the data into the spreadsheet application cell; and  
if the data entered into the spreadsheet application cell falls inside the exclusive bound range, preventing entry of the data into the spreadsheet application cell.

25. The method of Claim 24, whereby if the data entered into the spreadsheet application cell falls inside the exclusive bound range, entering into the spreadsheet application cell one of the lower endpoint of the exclusive bound range or the upper endpoint of the exclusive bound range that has the shortest absolute value distance from the data entered into the spreadsheet.

26. The method of Claim 25, further comprising creating an overlapping exclusive bound range from two or more exclusive bound ranges, whereby a lowest bound minimum value of the overlapping bound ranges is selected as an overlapping exclusive bound range minimum value, and whereby a highest bound maximum value from the overlapping bound ranges is selected as an overlapping exclusive bound range maximum value.

27. A computer-readable medium including computer-executable instructions which when executed by a computer perform a method of formulaically bounding data in a spreadsheet application cell, comprising:

entering data into a spreadsheet application cell;

applying a data bounding function to the spreadsheet application cell for prescribing valid data that may be entered into the spreadsheet application cell; and

if the data entered into the spreadsheet application cell is not valid data prescribed by the data bounding function, preventing the data from entry into the spreadsheet application cell.